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PARENT-CHILD DISCREPANCIES IN PERCEIVED PARENTAL SACRIFICE
AND ACHIEVEMENT MOTIVATION OF CHINESE ADOLESCENTS
EXPERIENCING ECONOMIC DISADVANTAGE

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ABSTRACT

Based on a sample of 275 intact Chinese families having at least one child aged 11 to 16 experiencing economic disadvantage in Hong Kong, the relationship between parent-adolescent discrepancies in perceived parental sacrifice and adolescent achievement motivation was examined. It was found that parents and adolescents had different perceptions of parental sacrifice, with adolescents perceived lower levels of parental sacrifice than did their parents. Although the effect size of father-adolescent discrepancy in perceived paternal sacrifice was greater than mother-adolescent discrepancy in perceived maternal sacrifice, results indicated that mother-adolescent discrepancy in perceived maternal sacrifice negatively predicted adolescent achievement motivation in poor Chinese families, whereas father-adolescent discrepancy in perceived paternal sacrifice did not. The present study is the first scientific study showing that parent-child discrepancy in perceived parental sacrifice influences achievement motivation of poor Chinese adolescents, which provides insight for researchers, youth counsellors, and family practitioners to give more attention to the dyadic interactions on resource allocation among Chinese family members experiencing economic disadvantage.

Keywords: poverty; parental sacrifice; parent-child discrepancy, achievement motivation, adolescent, Chinese

Introduction

Poverty has been a major concern in the global context. There is evidence that poverty has brought detrimental effects to adolescent achievement motivation and cognitive-behavioral competencies (Barajas et al. 2008; Kane 1987). According to Kane (1987), poor individuals may have “motivational deficit” (believing action is useless), “cognitive interference” (difficulty in learning that action can produce positive outcomes in new situations) and “affective reaction” (depression or resignation) when they experience learned helplessness in face of uncontrollable circumstances. Pareek (2002) further suggested that poverty created a specific pattern of motivation with low need for achievement, low need for extension and high need for dependence. This thesis echoes the Chinese maxim of “*ren qiong zhi duan*” (poverty stifles ambition), which clearly portrays the detrimental effects of poverty on one’s motivation.

While there is evidence that poverty impaired family processes (such as disruptive parenting, parent-child conflicts) which further hampered adolescent psychosocial development (Conger and Conger 2008; Shek 2008), there is also evidence in the resilience literature indicating that family processes (such as family cohesion, parental support) protected adolescents from adversity (Garmezy 1993; Gofen 2009). Jessor and Jessor (1977) commented that adolescent externalizing problems were the results of the interaction between risk factors and protective factors in the family system. Thus, it is essential to study the relationships between family processes and adolescent development in the context of poverty, as this brings important clues on helping the economically disadvantaged adolescents in face of adversity, and at the same time protecting the families from the problems of intergenerational poverty.

Among different family processes, parental sacrifice has been regarded as a unique feature in the Chinese culture (Chao and Kaeochinda 2010). Lam (2005) further suggested that the Chinese meaning of parenthood is “associated with the notion of ‘responsibility for children’ and ‘making sacrifice for the benefit of children’” (p. 118). Parental sacrifice for children’s education is a process by which parents give up their personal needs for the sake of educational needs of their children. The process involves three main steps. First, to fulfill the educational needs of children, parents are required to mobilize different family resources, such as money, time and effort. Second, due to limitation of resources within the family, parents have to struggle in their mobilization and allocation of resources. Third, parents prioritize the use of resources for the educational needs of children over fulfillment of their own personal needs (Leung and Shek 2011a). Based on a survey of the literature of family capital theory (Coleman 1990), family investment model (Conger and Conger 2008), parental involvement on child’s education (e.g. Grolnick et al. 1997), and the qualitative findings of Chinese parents and adolescents (Leung and Shek 2011a), five dimensions of parental sacrifice on children’s education were identified, including striving of financial resources, time spent on children’s education, restructuring of daily routine, sacrifice of lifestyle and aspiration and shielding from worries (Leung and Shek 2011a).

Achievement motivation was defined as “attention to a need of achievement” (Weiner 1992, p. 168). It is a “hope-oriented” attribute (Feather 1965) that measures one’s desire to achieve success. However, achievement motivation in the Western conceptualization favors an “individualistic orientation” in deciding the goals and values of success, standard of excellence and criteria of evaluation. This conceptualization was criticized by some Chinese scholars that it was unsuitable for

Chinese people, which are rooted in collectivist orientation of Confucian philosophy (Yang and Yu 1988). They argued that the conceptualization and measurement of achievement motivation should reflect a Chinese cultural orientation that emphasizes socially defined and approved standards (Yang and Yu 1988).

In traditional Chinese families, family members were supposed to subordinate their personal interests, goals and aspirations to the glory and welfare of the family as a whole (Yeh and Yang 1997). Guided by the interdependent quality within the Chinese familial relationships, adolescents who are indebted by their parents' nurturance will strive for achievement so as to express their gratitude towards their parents' contributions (Leung and Shek 2013). There is empirical support that parental sacrifice positively influenced adolescent psychosocial outcomes in poor families in the Chinese communities (Fuligni and Yoshikawa 2003; Leung and Shek 2013).

But how about when parents and adolescents have different perceptions of parental sacrifice? This brings an important but unaddressed issue in understanding the effects of parent-child discrepancies in perceived family processes on adolescent development. Parent-child discrepancies have long been regarded as "methodological nuisances" (De Los Reyes 2011) or "research artifacts" (McGuire 1969) that were commonly treated as measurement errors. However, there is counter-argument that parent-child discrepancies are absolutely "more than measurement error" (Achenbach 2011, p. 80), as they reflect "basic realities of variations in human functioning and in how it is perceived" (Achenbach 2011, p. 85). Parent-child discrepancies bring valuable meanings and implications for the clinical assessment and treatment of child and adolescent psychopathology (Achenbach 2011; De Los Reyes 2011). As such, it is important not just to focus on "levels" of family processes but also "discrepancies" in family processes in different family members.

Generally speaking, it was found that adolescents perceived less positively in family processes than did parents (De Los Reyes et al. 2010; Reynolds et al. 2011). There are three theoretical accounts of parent-adolescent discrepancies in their perceptions of family processes. First, developmental theorists interpret the parent-child difference as a sign of individuation (Grotevant and Cooper 1986), which is regarded as a normative process of adolescent development. Adolescents seek for identity formation, autonomy and independence during the stage of adolescence. They prefer to share their critical views that are different from their parents as a sign of maturation which accounts for the parent-adolescent discrepancies of perceived family processes (Lerner and Spanier 1980). Second, the “generational stake” hypothesis (Bengtson and Kuypers 1971) helps to explain the parent-adolescent discrepancies in family processes. With more investment in time and effort to the family, parents tend to portray a positive picture of family processes that enhance family cohesion and nurturing for their children (Lerner and Knapp 1975; Lerner and Spanier 1980). On the contrary, adolescents who are in search of self-identity and autonomy tend to enlarge the differences involved. The third explanation suggests that parent-child discrepancies are the results of conflicts and miscommunication between parents and adolescents. Olson et al. (1983) portrayed that family stresses contribute to the different views of family processes among family members. Minuchin (1985) further suggested that parent-child discrepancies reflect family disorganization, as illustrated by maladaptive interaction patterns among family members, and a lack of family cohesion. According to the suggestions of Welsh and colleagues (1998), the first two perspectives view parent-child discrepancies as indicators of normal developmental processes of adolescents and ordinary responses of parents. The discrepancies are the results of different developmental lenses used between parents

and adolescents (i.e. divergent realities approach). Under these views, discrepancies may not have a strong link to adolescent developmental outcomes. In contrast, the third perspective suggests that parent-child discrepancies in perceived family processes are related to family miscommunication and maladjustment (Minuchin 1985), and adolescents may perceive a sense of inequality between themselves and their parents, which in turn may result in poor adjustment and negative developmental outcomes of adolescents (i.e. perceived inequalities approach; Welsh et al. 1998).

It is important to examine parent-adolescent discrepancies in perceived parental sacrifice and its impacts to achievement motivation of Chinese adolescents experiencing economic disadvantage for four reasons. First, the interdependent nature of Chinese familial relationships suggests that adolescents who are indebted by their parents' sacrifice would strive to achieve in order to express their gratitude to their parents' contributions and nurture (Fuligni and Yoshikawa 2003; Leung and Shek 2013). Thus, parent-child discrepancies in perceived parental sacrifice may reduce adolescents' readiness to compensate for their parents' contribution and sacrifice, which may in turn lessen their motivation to excel. Hence, it is worthy to examine the relationships between parent-child discrepancies in perceived parental sacrifice and adolescent achievement motivation in poor Chinese families.

Second, as suggested in the family investment model (Conger and Conger 2008), poor families may find difficulties in mobilizing resources necessary for the educational and developmental needs of adolescents, which may in turn affect adolescents' cognitive and psychosocial development. In order to save resources for their children's education and development, parents may have to sacrifice their own needs. Parent-child discrepancies in perceived parental sacrifice may imply a disagreement among parents and adolescents in the distribution and allocation of

family resources to adolescents' educational and developmental needs. This is particularly an issue in poor families, as expectations about resource allocation may diverge according to the differential needs of parents and adolescents within the family. Thus, it is noteworthy to examine the diverse expectations among family members on family investment to adolescent development in poor families.

Third, according to the social capital theory (Coleman 1990), financial and social capital (such as good parent-child relationship) is important for poor adolescents to develop their competence. Parental sacrifice serves as a core component of family social capital that is strongly linked to financial capital (Leung and Shek in-press) in influencing adolescent development. Hence, parent-child discrepancies in perceived parental sacrifice should be examined.

Last but not least, parental sacrifice, as a unique feature of family processes in the Chinese culture (Chao and Kaeochinda 2010), has seldom been explored in the literature. There is an urge to examine this family construct and its relationship with family dynamics and adolescent development so as to build up family models applicable to the Chinese. It is important because Chinese people constitute roughly one-fifth of the world's population. Along this line, parent-child discrepancies in perceived parental sacrifice, which has not been explored in the literature, should draw more academic attention.

The present study

The study aimed at exploring the relationships between parent-adolescent discrepancies in perceived parental sacrifice and adolescent achievement motivation. In the present study, parent-child discrepancy in perceived parental sacrifice was defined as the difference of perceptions in parental sacrifice between parents and

adolescents (i.e., parental ratings minus adolescent ratings), with higher scores representing that parents perceived more sacrifice than did adolescents. There were three research questions in this study:

1. Are there any differences in the perceptions of parental sacrifice among fathers, mothers, and adolescents experiencing economic disadvantage? Based on adolescent individuation process (Grotevant and Cooper 1986) and the “generational stake” thesis (Bengtson and Kuypers 1971), it was hypothesized that adolescents would perceive parental sacrifice less positively than did their parents (Hypothesis 1).
2. Are there any relationships between parent-adolescent discrepancies (parents’ ratings greater than adolescents’ ratings) in perceived parental sacrifice and achievement motivation of economically disadvantaged adolescents? Based on the systems perspective that parent-adolescent discrepancies may reflect family miscommunication (Olson et al. 1983) and family disorganization (Minuchin 1985), it was hypothesized that greater discrepancies (parents’ ratings greater than adolescents’ ratings) between fathers (and mothers) and adolescents in the perceptions of parental sacrifice would be associated with poor adolescent achievement motivation (Hypothesis 2).
3. What is the relative importance of father-adolescent and mother-adolescent discrepancies in perceptions of parental sacrifice in predicting adolescent achievement motivation in economically disadvantaged families? This question is important as the results may shed light for family practitioners and youth counselors to formulate effective strategies in their intervention of poor families. As mothers were more involved in parenting (Coverman 1985; Kluwer et al. 2000) and more emphasized on building close relationship with

their children (Chao and Tseng 2002), discrepancies in sacrifice would intensify the related conflict. As such, it was hypothesized that mother-adolescent discrepancy in perceived maternal sacrifice (mothers' ratings greater than adolescents' ratings) would negatively influence adolescent achievement motivation in economically disadvantaged families (Hypothesis 3).

Method

Participants

Intact families having at least one child aged 11 to 16 experiencing economic disadvantage in Hong Kong were invited to participate in the study. Regarding the indicators of poverty, the concept of relative poverty was adopted, with 50% of monthly median domestic household income used as the poverty threshold. There were 276 economically disadvantaged families participated in the study. There was one set of invalid questionnaires, leaving 275 sets of questionnaires for analyses.

Measures

Paternal/Maternal Sacrifice for Children's Education Scale (PSA/MSA). Based on the literature on family investment (Conger and Conger 2008), family capital (Coleman 1990), parental involvement in children's education (Epstein 1992; Grolnick et al. 1997), and qualitative findings from focus groups of parents and adolescents respectively, an indigenous Paternal/Maternal Sacrifice for Children's Education Scale (PSA/MSA) was developed (Leung and Shek 2011a). The scale was developed with 23 items measuring dimensions of sacrifice in terms of financial resources, time on children's education, reorganization of daily routine, sacrifice of lifestyle and

aspiration, and shielding from worries. Participants were requested to rate the degree of agreement with each item on a 6-point Likert scale ranging from “Strongly disagree” to “Strongly agree”. An example of the item is “I give up my social life for the education of my child”. Both PSA and MSA showed internal consistency, divergent validity and factorial validity in validation study (Leung and Shek 2011b). Higher scores indicate greater parental sacrifice for children’s education. The adolescent version of the scale (APSA/AMSA) was modelled from parent’s version of Chinese Paternal/Maternal Sacrifice for Child’s Education Scales respectively, and showed sound psychometric properties in confirmatory factor analyses (Leung et al. in-press). Reliability analyses showed that Parental Sacrifice for Children’s Education Scale perceived by both fathers (PSA) and mothers (MSA) and adolescents (APSA and AMSA) had excellent reliability in this study ($\alpha = 0.93$ for PSA, 0.92 for MSA, 0.94 for APSA and 0.94 for AMSA, respectively).

Social Oriented Achievement Motivation Scale (SOAM). SOAM is a self-reported culture-specific measure of Chinese achievement tendencies developed by Yu and Yang (1989). SOAM contains 30 items that measures achievement value, goals, related behaviors and outcome evaluation defined by significant others, groups and society (Yu 1996). Examples of SOAM items are “Without other’s encouragement, I would think of giving up a difficult task” and “If I cannot do better than others, I would feel that I couldn’t face my seniors”. Responses to the item statements are reported on a 6-point Likert scale where 1= totally disagree and 6 = totally agree. The scale has good internal consistency, test-retest reliability, convergent validity and discriminant validity (Yu and Yang 1989). The total score of the items in the scale is an indicator of the degree of social-oriented achievement motivation, with higher

scores indicating higher levels. The scale was demonstrated to have good reliability in this study ($\alpha = 0.94$).

Procedures

A cross-sectional survey with purposeful sampling was conducted in the present study. Non-governmental organizations across Hong Kong were invited to identify the families experiencing economic disadvantage and recruit them to participate in the study. There were totally 10 non-governmental organizations and 24 social service units, including children and youth service centers, school social work services, community centers and family service centers, participated in the study. Social workers of the service units were given formal briefings on the selection criteria of the sample and data collection processes. During data collection, fathers, mothers and adolescents were given explanations about the purpose of the study, procedure of data collection, the rights of respondents to voluntarily participate and withdrawal from the study, as well as the use of the data in the study. Written informed consent was obtained from all participants. Fathers and mothers were requested to complete the Father Questionnaire and the Mother Questionnaire respectively which contained identical measure of parental sacrifice, whereas adolescents were requested to complete the Adolescent Questionnaire which contained measures of paternal and maternal sacrifice and achievement motivation. To ensure confidentiality, the questionnaire was completed by each participant separately. The questionnaire was administered in a self-administered format. In case the participants had difficulties comprehending the questionnaires, the questions or items were read out by researchers or trained social workers in an interview format. Parents and adolescents took around 45 and 35 minutes to complete the questionnaires respectively.

Conforming to the ethics of human subject research, the study was approved and monitored by Human Subjects Ethics Sub-committee of an internationally recognized university.

Data analytic strategy

To address Research Question 1, univariate analyses of variance (ANOVAs) and paired t-tests were used to examine the differences in perceived parental sacrifice. Significant effects were further analysed by post-hoc comparisons using Tukey's HSD calculation.

For Research Questions 2 and 3, discrepancy scores between parents and adolescents in perceived parental sacrifice were determined. The differences between the standardized ratings of parents and adolescents were calculated in the study for three reasons. First, the standardized discrepancy scores allow the parents' reports and children's reports to contribute equally to discrepancy scores in perceived parental sacrifice so as to produce the most consistent estimates of parent-child discrepancies reflecting both informants' characteristics (De Los Reyes and Kazdin 2004). In contrast, the discrepancy scores computed from raw scores are affected by the differential distributions of the individual scores (Guion et al. 2009). Second, the standardized approach helps to adjust the systematic biases in variability of parents' and adolescents' responses as it empirically equates the distributions of both ratings by the z distribution (Guion et al. 2009). This is important because adolescent's ratings on family attributes always had a greater variability than parents', resulting in higher correlation with the discrepancy scores when using raw scores (Gulon et al. 2009). Third, the standardized approach enhances the interpretability of the scores, since the standardized score has a mean of zero and a standard deviation of one (De

Los Reyes and Kazdin 2004).

Under the standardized approach, the parents' and adolescents' responses on parental sacrifice were converted into z-scores (the standardized scores). The discrepancy scores were calculated by subtracting the adolescents' standardized scores from the parents' standardized scores on parental sacrifice. The positive discrepancy score indicates that parents' response was more positive than the adolescents' response.

To address Research Question 2, Pearson correlation analyses were performed to examine the relationships between parent-adolescent discrepancies in perceived parental sacrifice and adolescent achievement motivation. Bonferroni correction was adopted to reduce the chance of committing inflated Type I error, i.e. $\alpha = .05/2$, i.e. .025.

Regarding Research Question 3, standard multiple regression was performed to understand the relative influences of father-adolescent and mother-adolescent discrepancies in perceived parental sacrifice on achievement motivation of adolescents respectively.

As previous study showed that paternal and maternal sacrifice predicted adolescents' achievement motivation in poor Chinese families (Leung and Shek 2013), both paternal and maternal sacrifice scores (i.e., levels) were regarded as the control variables in further assessment of the relative influences of father-adolescent and mother-adolescent discrepancies in perceived parental sacrifice on achievement motivation of adolescents respectively. An aggregated variable of fathers' and adolescents' perceived paternal sacrifice was created to represent the overall paternal sacrifice (Lamborn et al 1991; Steinberg et al. 1992; Stice and Barrera 1995). Similarly, an aggregated variable of mothers' and adolescents' perceived maternal

sacrifice was created to represent the overall maternal sacrifice. Hierarchical multiple regression was performed to examine whether the hypothesis was supported after controlling the “overall” paternal and maternal sacrifices.

Results

Descriptive statistics

The mean ages of the fathers and mothers were 49.94 ($SD = 9.28$) and 42.18 ($SD = 4.97$), respectively. A high proportion of parents attained lower educational standard, having 205 fathers (74.5%) and 204 mothers (74.2%) attained the educational standard of junior secondary or lower. There were 211 (76.7%) working fathers, whereas majority of mothers were housewives ($n = 199$, 72.4%). The average number of children in the families was 2.34 ($SD = 0.90$). There were 96 families receiving Comprehensive Social Security Assistance from the Government, representing 34.8% of the sample.

Regarding the adolescent sample, there were 134 boys (48.7%) and 141 girls (51.3%) involved in the study. The mean age of the adolescents was 13.56 ($SD = 1.54$), with the means of boys at 13.40 ($SD = 1.60$) and mean of girls at 13.71 ($SD = 1.47$). There were 65 adolescents (23.6%) studying in primary school (Grade 6 or below), 151 (54.9%) in junior secondary level (Grade 7 to Grade 9), 57 (20.7%) in senior secondary level (Grade 9 and above).

Descriptive statistics of the measures were shown in Table 1.

Research Question 1

The results of univariate analyses of variance (ANOVA) indicated a significant main effect for the reporters (fathers' responses, mothers' responses, adolescents'

responses of perceived paternal and maternal sacrifice), with $F(3,1096) = 140.52$, $p < 0.001$, partial eta squared = 0.34. Post-hoc comparisons of the results showed that there was significant difference on perceptions of paternal sacrifice for children's education between fathers and adolescents, with adolescents perceiving lower paternal sacrifice for children's education than did fathers. Similar findings occurred in mother-adolescent differences where adolescents perceived significantly lower maternal sacrifice for children's education than did mothers. Partial eta squared was used to assess the effect size of dyadic discrepancies in parental sacrifice. It was found that partial eta squared of father-adolescent and mother-adolescent discrepancies in perceived sacrifice were 0.45 and 0.18 respectively, indicating large effect according to Stevens's (2002) suggestion (0.01 = small effect, 0.06 = medium effect, 0.14 = large effect). The effect size of father-adolescent discrepancy in paternal sacrifice was particularly large (Table 2).

To address the issue of non-independence of observations in ANOVA, separate paired t-tests with Bonferroni correction ($\alpha = 0.05/2$, i.e. 0.025) were performed. There was significant difference between parents' and adolescents' perceptions of parental sacrifice, with Cohen's d of father-adolescent and mother-adolescent discrepancies in perceived parental sacrifice as 1.12 and 0.60 respectively (Table 3). The results indicate that the difference of perceived parental sacrifice between fathers and adolescents, and that between mothers and adolescents were great according to Cohen's (1988) suggestion. Hypothesis 1 was supported.

Research Question 2

Correlation analyses suggested that there were no significant relationships between socio-demographic data (including adolescent gender, age, educational level,

duration of stay in Hong Kong) and parent-adolescent discrepancies in perceived parental sacrifice, and with adolescent achievement motivation.

The findings showed that both father-adolescent discrepancy (fathers' ratings greater than adolescents' ratings) and mother-adolescent discrepancy (mothers' ratings greater than adolescents' ratings) in perceived maternal sacrifice were associated negatively with achievement motivation of economically disadvantaged adolescents, with Pearson's r of -0.14 ($p < 0.025$, Bonferroni correction was carried out) and -0.23 ($p < 0.001$), respectively. Hypothesis 2 was supported (see Table 4).

Research Question 3

Standard multiple regression was performed to examine the relative influence of father-adolescent discrepancy in paternal sacrifice and mother-adolescent discrepancy in maternal sacrifice to adolescent achievement motivation. The results indicated that parent-adolescent discrepancies (parents' ratings greater than adolescents' ratings) in perceived parental sacrifice predicted the achievement motivation of economically disadvantaged adolescents (Multiple $R = 0.24$, $p < 0.001$), explaining 6% of the total variance. Only mother-adolescent discrepancy (mothers' ratings greater than adolescents' ratings) in perceived maternal sacrifice was found negatively predicted adolescent achievement motivation, with $\beta = -0.21$ ($p < 0.01$; Table 5).

When controlling the aggregated variables of paternal and maternal sacrifice (i.e. "overall" paternal and maternal sacrifices), the results of hierarchical multiple regression indicated that parent-adolescent discrepancies (parents' ratings greater than adolescents' ratings) in perceived parental sacrifice predicted the achievement motivation of economically disadvantaged adolescents, adding to 4% of the total variance. Mother-adolescent discrepancy (mothers' ratings greater than adolescents'

ratings) in perceived maternal sacrifice was found negatively predicted adolescent achievement motivation, with $\beta = -0.17$ ($p < 0.01$), but the prediction of father-adolescent discrepancy in perceived paternal sacrifice on adolescent achievement motivation was insignificant. Hypothesis 3 was supported. The results are listed in Table 6.

Discussion

This paper attempts to study the relationships between parent-adolescent discrepancies in perceptions of parental sacrifice and adolescent achievement motivation in Chinese families experiencing economic disadvantage. There are several unique features in the study. First, parental sacrifice, which is a unique feature in Chinese family processes (Chao and Kaeochinda 2010), was examined in the study. Second, parent-adolescent discrepancy in perceived parental sacrifice that was regarded as a “legitimate” measurement construct to be examined in research which was almost non-existent. Third, the study recruited Chinese poor families as the participants, which sketches the unique cultural and socio-economic contexts in understanding parent-child discrepancy of family process. Fourth, achievement motivation, which was a “hope-inducing” attribute that motivated the adolescents to excel in face of poverty and adversity, was employed as an outcome measure in this study. Fifth, indigenous Chinese conceptions of parental sacrifice and achievement motivation were adopted. Sixth, validated indigenous assessment tools in assessing parental sacrifice and achievement motivation were employed in the study. Both instruments showed sound psychometric properties when used in the Chinese context. Last but not least, fathers, mothers and adolescents were recruited to participate in the study. As most of the related studies only considered mother-child discrepancy as the

sole construct of study (De Los Reyes et al., 2010; Reynolds et al. 2011), this study showed methodological advances in including father-adolescent discrepancy in the study.

The present findings showed that parents and adolescents had different perceptions of parental sacrifice in Chinese families experiencing economic disadvantage. The results echoed the observations of Paulson and Sputa (1996) that “what parents think they may be doing in the home may not be what the adolescent perceives” (p. 371). The three explanations of indication of individuation of adolescents as a normative developmental process (Grotevant and Cooper 1986), the “generational stake” hypothesis (Bengtson and Kuypers 1971), and the conflictual interactions and communications between parents and adolescents (Olson et al. 1983; Minuchin 1985) may account for the discrepancies. As the focus of the study was not to examine the relative superiority of these hypotheses, future studies should be conducted to examine them.

It was found that there was great discrepancy between fathers and adolescents in perceived paternal sacrifice. In the Chinese culture, families are patriarchal and hierarchical (Chao and Tseng 2002), with fathers as the “*yi jia zhi zhu*” (the head of the family). The label of “*yi jia zhi zhu*” entails two meanings: the first one is that fathers are considered as superior in the family hierarchy. Fathers wield great decision-making power in the family that other family members are obliged to obey. The second meaning is that fathers need to shoulder responsibility for the betterment of the family and their children. This brings special implications to fathers experiencing economic disadvantage. As majority of poor fathers were of lower educational level, they had to engage in long-hour, physically demanding jobs in order to strive for the resources for the families. They may also give up their hobbies

and lifestyles for the sake of their families. Having accepted that earning a living was the major role of the fathers, fathers work hard to show their devotion to the families. Unfortunately, based on the sex-role theory (Bem 1974) and gender-ideology approach that males are less expressive, more instrumental and more remote (Coverman 1985; Kluwer et al. 2000), fathers may not express their hardship and stresses in front of their children. Thus, parental sacrifice that is experienced by fathers may not be fully understood by their children. In view of the fact that related studies are almost non-existent in the global context, it is important to conduct more research in this area.

It is noteworthy that even though there was great discrepancy between fathers and adolescents in perceived paternal sacrifice, father-adolescent discrepancy (fathers' ratings greater than adolescents' ratings) in perceived paternal sacrifice did not influence adolescent achievement motivation. Rather, mother-adolescent discrepancy (mothers' ratings greater than adolescents' ratings) in perceived maternal sacrifice did negatively influence adolescent achievement motivation, albeit the magnitude of mother-adolescent discrepancy was relatively smaller. There are three possible explanations for the findings. One possibility lies on the fact that mothers, as the "managers" of the family, are mainly responsible for the distribution of family resources in the family. This is particularly critical for poor families, as the resources they have are scarce. To have better allocation of family resources, mothers may prefer to spend money on daily necessities or save it for the further education of the children, whereas adolescents may expect to have financial resources in meeting their current developmental needs, such as more extracurricular activities, better learning equipment etc. This may easily result in conflicts between mothers and adolescents, and adolescents may experience a sense of family inequality between themselves and

their mothers in handling the allocation of family resources (Welsh et al. 1998). As fathers are less involved in family management, they may have fewer conflicts with adolescents in the resource management. The second possibility is that based on sex-role theory (Bem 1974), gender-ideology approach (Kluwer et al. 2000) and the role orientation in the Chinese culture (Shek 2002), mothers are more involved in child-rearing and parenting roles than are fathers, as indicated by the Chinese cultural inclination of “*nan zhu wai, nu zhu nei*” (men manage things outside the family; women manage things inside). Emphasising on the caring and parenting roles of their children, mothers’ sacrifices may focus mainly on their contributions of time and effort. However, adolescents may view that the mothers’ involvement as a kind of monitoring and surveillance, which may be a threat to their autonomy and mutual trust (Leung and Shek 2011a). This may hinder their motivation to excel. As poor fathers are less involved in the parenting roles, the threat to autonomy intrusion is less obvious. This explanation is evident by a qualitative study on the perceptions of parental sacrifice between parents and adolescents (Leung and Shek 2011a). The third possibility is that in the Chinese culture, interdependence in the Chinese family system is more influential in mother-child relationships, where Chinese mothers cherish the relational goals of fostering close mother-child relationships, and become more psychologically attached to their children (Chao and Tseng 2002). Hence, mother-child discrepancy of parental sacrifice would imply miscommunication between mothers and adolescents, which may adversely influence adolescent achievement motivation. In contrast, as fathers are more detached in parenting (Coverman 1985; Kluwer et al. 2000) and are more remote in parent-child relationship, great father-child discrepancy may not necessarily influence adolescent achievement motivation. As achievement motivation is the driving force for

adolescents to strive to excel, a decline of achievement motivation would lessen the adolescents' desire to breakthrough from the shadow of poverty, which may result in the threat of intergenerational poverty.

There are several theoretical implications of the study. First, the present study is the first scientific study examining the relationships between parent-child discrepancies in perceived parental sacrifice and adolescent achievement motivation in Chinese families experiencing economic disadvantage, which brings important addition into the literature. Second, the findings support the view that “informant discrepancies” are absolutely “more than measurement error” (Achenbach 2011, p. 80) that brings important meanings and implications on understanding the factors that influence adolescent psychosocial outcomes (De Los Reyes 2011). Third, the study provides insightful ideas in understanding the familial influences of adolescent psychosocial development in the context of poverty. Regarding the pathways through which poverty influences adolescent development via family processes, the “family stress model” that focuses on the mediation effect of parental distress and disruptive parenting (Conger and Conger 2008) has been dominant in social science literature. The present findings offer an alternate perspective that parent-child discrepancies in perceived parental sacrifice do negatively predict adolescent achievement motivation. The study reflects some issues concerning dyadic parent-child interactions in resource allocation within Chinese families experiencing economic disadvantage, which provide rich ingredients for further research in the Chinese family processes in the context of poverty.

Last but not the least, the findings that there was great father-adolescent discrepancy in paternal sacrifice and stronger prediction of mother-adolescent discrepancy of perceived maternal sacrifice in adolescent achievement motivation

provide important clues for the exploration of gender parental roles in influencing achievement motivation of Chinese adolescents living in poverty.

There are also practical implications to family intervention. First, the present findings indicated that parents and adolescents of poor families had different perceptions of parental sacrifice. Hence, in helping adolescents experiencing economic disadvantage, it is essential to explore the perceptions of each family member in understanding the financial strain and related parental sacrifice during assessment and intervention. Second, it was found that parent-child discrepancies in the perceived parental sacrifice negatively influenced achievement motivation of poor adolescents. The discrepancies may be interpreted as miscommunication, inequalities, and even conflictual relationships between parents and adolescents (Olson et al. 1983; Minuchin 1985; Welsh et al. 1998), especially in economically disadvantaged families where financial strains and economic hardship were prominent. As suggested by De Los Reyes (2011), informant discrepancies are important clues for clinical practitioners to understand the causes and consequences of child and adolescent psychopathology, and design appropriate treatments to help the families. Hence, youth counsellors and family practitioners should be sensitive to the diverse interpretations of parental sacrifice between parents and adolescents, as well as the meanings underlying the discrepancies. Also, they should facilitate more communications between parents and adolescents in the allocation of family resources and resolve the parent-child conflicts that may arise. Welsh et al. (1998) have reminded us that it is normal and healthy when parents and adolescents have divergent views of family relations due to their different developmental lenses (i.e. divergent realities approach). But when the discrepancies are perceived as inequalities in family relations (i.e. perceived inequality approach), family conflicts may arise and bring negative effects

to adolescent development. Hence, family life education programmes and intervention strategies that enhance mutual understanding between parents and adolescents and facilitate parent-child interactions in economically disadvantaged families are necessary. Particularly, the present study identified that mother-adolescent discrepancy of perceived maternal sacrifice (mothers' ratings greater than adolescents' ratings) negatively influenced adolescent achievement motivation, suggesting that social service practitioners need to help mothers express the economic burdens that the families may experience, but at the same time understand the genuine developmental needs of their children.

Third, the present intervention strategies in helping poor families focus mainly on tangible subsidies (e.g. cash assistance, food bank). Few emphases are put on enhancing social capital of the poor families. Disagreement on resource allocation and miscommunication between parents and children may result in decrease of achievement motivation of adolescents. Nevertheless, the establishment of the Child Development Fund has been a breakthrough in developing assets of economically disadvantaged adolescents in Hong Kong. The Fund aims at accumulating financial capital and building non-financial assets such as creating aspirations, building family support, enlarging social capital of the families etc. Based on the Report of Consultancy Study on Child Development Fund Pioneer Projects (The Hong Kong Polytechnic University, 2012), results indicated that through joint planning of child developmental goals and use of the targeted savings between parents and children, direct communication and parent-adolescent relationship was enhanced. The Government should pay attention in fostering effective family processes and flourishing family capital that enhance adolescents' positive development in poor families (Leung and Shek 2015).

Although this is the first known scientific study examining the relationships between parent-adolescent discrepancies in parental sacrifice and adolescent achievement motivation of Chinese families experiencing economic disadvantage, there are several limitations of the present study. First, the limitation of purposeful sampling should be acknowledged. As the participating families were not randomly sampled, generalizability of the findings may be limited. Second, the cross-sectional design of the present study has the inherent problem in inferring cause-and-effect relationships due to time order. Hence, longitudinal research design is recommended in the future. Third, as the assessment of parental sacrifice and adolescent achievement motivation was based on self-reported questionnaires, it would be methodological preferable to use multiple methods in future study. Qualitative research methods such as case interviews should be useful to obtain a more comprehensive picture about the issue. Fourth, as the findings presented in the study were based on economically disadvantaged adolescents in Hong Kong, there is a need to assess the generalizability of the findings in different Chinese communities (e.g. mainland China) and Chinese people living in non-Chinese contexts (e.g. Chinese-Americans). Last but not least, it is noteworthy that the effect size of the significant relationships between parent-child discrepancies in parental sacrifice and adolescent achievement motivation was in the low range. Hence, there is a need to interpret the effect of “discrepancies” in parental sacrifice on adolescent achievement motivation in a cautious manner.

Despite these limitations, in view of the paucity of research in related areas, the present findings are pioneering and insightful in recognizing parent-child discrepancy in parental sacrifice as a “legitimate” construct and studying its relationships with adolescent achievement motivation of Chinese families experiencing economic

disadvantage. Essentially, as commented by Achenhach (2011) that “informant discrepancies should evoke curiosity about the reasons for the discrepancies and about how best to use them in research and practice, rather than being dismissed as mere measurement error” (p. 85), the present study is a constructive and proactive response to the quest.

COMPLIANCE WITH ETHICAL STANDARDS

The authors declare that they have no conflict of interest.

The authors declare that all procedures performed in studies involving human participants were in accordance with the ethical standards of Human Subjects Ethics Sub-committee of The Hong Kong Polytechnic University and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

Informed consent was obtained from all individual participants included in the study.

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Table 1. Descriptive Statistics of the measures

	Range	<i>M</i>	SD
Parental Sacrifice			
Paternal sacrifice perceived by fathers (PSA)	56-138	104.66	16.62
Maternal sacrifice perceived by mothers (MSA)	43-138	109.92	14.79
Paternal sacrifice perceived by adolescents (APSA)	23-138	84.42	20.46
Maternal sacrifice perceived by adolescents (AMSA)	27-138	99.28	20.48
Social Oriented Achievement Motivation (SOAM)	35-180	117.93	25.08

Table 2. Effects and post-hoc comparison of different informants on the measures of parental sacrifice

	Overall	A (fathers vs mothers)	B (paternal vs maternal sacrifice by adolescents)	C (fathers vs paternal sacrifice by adolescents)	D (mothers vs maternal sacrifice by adolescents)
<i>Post-hoc comparison</i>		S (M>F)	S ($A_m > A_p$)	S ($F > A_p$)	S ($M > A_m$)
<i>F value</i>	140.52***				
<i>Partial η^2</i>	0.34 (overall)	0.08	0.37	0.45	0.18

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$ ns=not significant

Post-hoc comparisons: *A* father-mother difference of the measure. *B* Paternal and Maternal difference of the measure by the adolescents. *C* father-adolescent difference of the measure. *D* mother-adolescent difference of the measure. S significant at .05% level. $M > F$ Mothers' scores higher than fathers' scores. $A_m > A_p$ Adolescents' perceived maternal scores higher than perceived paternal scores. $F > A_p$ Fathers' scores higher than adolescents' perceived paternal scores. $M > A_m$ Mothers' scores higher than adolescents' perceived maternal scores.

Table 3. Mean differences on perceptions of parenting characteristics between parents and adolescents

Variables of family processes	Variables in comparison	<i>df</i>	t-values	Effect size (Cohen's <i>d</i>)
Parental sacrifice	Fathers' perceptions (PSA) vs. adolescents' perceptions (APSA)	274	15.09***	1.12
	Mothers' perceptions (MSA) vs. adolescents' perceptions (AMSA)	274	7.75***	0.60

* $p < .025$ (Bonferroni correction was adopted to guard against familywise Type I error), *** $p < .001$, ns = not significant

Table 4. Correlations between parent-child discrepancies in perceptions of parental sacrifice and adolescent achievement motivation in economically disadvantaged families

		Parent-child discrepancies on parental sacrifice	
		Father-adolescent discrepancy	Mother-adolescent discrepancy
Adolescents	Social-oriented achievement motivation	-0.14*	-0.23***

Note. * $p < .025$ (Bonferroni correction was adopted to guard against familywise Type I error). *** $p < .001$, ns=not significant.

Table 5. Prediction of parent-child discrepancies in parental sacrifice on achievement motivation of adolescents experiencing economic disadvantage

		Multiple R	Standardized Regression Coefficient (β)		R^2	<i>Adjusted R²</i>
			Parent-child discrepancy on parental sacrifice for children's education			
			Father-adolescent discrepancy	Mother-adolescent discrepancy		
Adolescents	Social-oriented achievement motivation	0.24***	-0.07ns	-0.21**	0.06	0.05

* $p < .05$, ** $p < .01$, *** $p < .001$ ns=not significant

Table 6. Hierarchical regression analyses of parent-child discrepancies in parental sacrifice on achievement motivation of adolescents experiencing economic disadvantage

	Step 1 (β)	Step 2 (β)
Aggregated variable of paternal sacrifice (i.e. overall paternal sacrifice)	0.30***	0.26***
Aggregated variable of maternal sacrifice (i.e. overall maternal sacrifice)	0.23***	0.23***
Father-adolescent discrepancy on paternal sacrifice		-.05
Mother-adolescent discrepancy on maternal sacrifice		-0.17**
F	33.74***	6.52**
R^2	0.16	0.20
ΔR^2		0.04

β = Standardized regression coefficient.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$